

We claim:

1. A concentrated room-temperature stable ultrasonic imaging agent comprising a parenterally administerable aqueous medium containing a dispersion of microspheres predominantly of diameters less than 10 microns, which microspheres consist of (gas microbubbles encapsulated with water-insolubilized biocompatible material), said imaging agent having a homogeneously dispersed concentration of greater than 100×10^6 microspheres per milliliter and which maintains such concentration for over 4 weeks at a temperature of 20 to 25°C.

2. The imaging agent of claim 1 in which at least 80% of said microspheres have diameters in the range from 1 to 9 microns.

3. The imaging agent of claim 1 or claim 2 which has a homogeneously dispersed concentration of said microspheres greater than 200×10^6 microspheres per milliliter and which maintains such concentration for over 4 weeks at a temperature of 20 to 25°C.

4. The imaging agent of claim 1 or claim 2 in which said microbubbles are encapsulated with human serum albumin.

5. A concentrated room-temperature stable ultrasonic imaging agent comprising a parenterally administrable aqueous solution of (a heat-denaturable biocompatible protein) containing a dispersion of microspheres at least 80% of which have diameters in the range of 1 to 9 microns, said microspheres consisting of an air microbubble encapsulated in a heat-insolubilized layer of said protein, said imaging agent having a homogeneously-dispersed concentration greater than 200×10^6 microspheres per milliliter and which maintains such concentration for over 4 weeks at a temperature of

20 to 25°C.

6. The imaging agent of claim 5 which has a homogeneously dispersed concentration of from 300 to 600 x 10⁶ microspheres per milliliter, and which maintains such concentration for at least 8 weeks at a temperature of 20 to 25°C.

7. The imaging agent of claim 5 or claim 6 in which said protein is human serum albumin.

8. The imaging agent of claim 5 or claim 6 in which 90% or more of said microspheres have diameters in the range from 2 to 8 microns.

9. A concentrated room-temperature stable ultrasonic imaging agent for intravenous administration, comprising a sterile aqueous solution of human serum albumin containing a dispersion of microspheres at least 80% of which have diameters in the range of 1 to 9 microns, said microspheres consisting of a bubble of air encapsulated in a water-insolubilized layer of said albumin, said imaging agent having a homogeneously-dispersed concentration of from 300 to 600 x 10⁶ microspheres per milliliter and which maintains such concentration for at least 8 weeks at a temperature of 20 to 25°C.

10. The imaging agent of claim 9 in which at least 90% of said microspheres have diameters in the range from 2 to 8 microns.